Sun™ FastEthernet PCI Adapter Product Note

THE NETWORK IS THE COMPUTER™

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Sun FastEthernet PCI Adapter Product Note

This document contains the late-breaking news and documentation updates for the Sun™ FastEthernet™ PCI adapter.

Replacing a SunSwift PCI Adapter With a Sun FastEthernet PCI Adapter in the Same PCI Slot

Your system will encounter network problems if you replace a SunSwift™ PCI adapter with a Sun FastEthernet PCI adapter, or if you replace a Sun FastEthernet PCI adapter with a SunSwift PCI adapter, in the same PCI slot. To avoid these problems, you must rename the `/etc/hostname.hme`<*num*> file on your system to reflect the new adapter's Ethernet interface. The `/etc/path_to_inst` file will be updated when you perform a reconfiguration boot on your system after installing the new PCI adapter.

- If you are replacing a SunSwift PCI adapter with a Sun FastEthernet PCI adapter, see page 2.
- If you are replacing a Sun FastEthernet PCI adapter with a SunSwift PCI adapter, see page 4.

Note – If you are adding a new adapter into a different PCI slot, refer to the adapter's installation and user's Guide for instructions on how to install the adapter and configure the software.

▼ To Replace the SunSwift PCI Adapter With a Sun FastEthernet PCI Adapter in the Same PCI Slot

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Note – Refer to your system's installation or service manual for detailed instructions for the following three steps.

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1. **Power off your system and open the system unit.**
2. **Replace the SunSwift PCI adapter with the Sun FastEthernet PCI adapter.**
3. **Close the system unit.**
4. **Power on the system, and when the OpenBoot PROM's banner is displayed, press the Stop-A keys to interrupt the boot process and to display the** `ok` **prompt.**
5. **At the** `ok` **prompt, use the** `show-nets` **command to list the system's network devices and to verify the Sun FastEthernet PCI adapter's installation.**

   You will see the system's network devices, which should be similar to the example below.

```
ok show-nets
a) /pci@1f,4000/SUNW,hme@2,1
b) /pci@1f,4000/network@1,1
q) NO SELECTION
Enter Selection, q to quit: q
ok
```

   - `hme` identifies the Sun FastEthernet PCI adapter's Ethernet device
   - `network` identifies the on-board Ethernet Device

   Make a note of the Sun FastEthernet PCI adapter's `hme` pathname for future reference.

Note – If these devices are not listed, check that the adapter is properly seated and reinstall the adapter, if necessary.

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6. **Perform a reconfiguration boot on your system.**

```
ok boot -r
```

After rebooting your system, login as super-user (root).

7. **At the command line, use the** `grep` **command to search the** `/etc/path_to_inst` **file for** `hme` **devices.**

```
# grep hme /etc/path_to_inst
"/pci@1f,4000/network@1,1" 0 "hme"          (On-board hme interface)
"/pci@1f,4000/pci@2/SUNW,hme@0,1" 1 "hme"   (SunSwift PCI hme interface)
"/pci@1f,4000/SUNW,hme@2,1" 2 "hme"         (Sun FastEthernet PCI hme interface)
```

In the example above, the `network@1,1` instance is the on-board FastEthernet device, the old `SUNW,hme@0,1` instance is for the previous SunSwift PCI adapter, and the new `SUNW,hme@2,1` instance is for the Sun FastEthernet PCI adapter.

You will need to know the instance number for Sun FastEthernet PCI adapter. In the above example, the instance number for the Sun FastEthernet PCI adapter is 2, which is shown in bold.

8. **Using the instance number found in Step 7, rename the** `/etc/hostname.hme`<*num*> **file previously used by the SunSwift PCI adapter to reflect the new instance number used by the Sun FastEthernet PCI adapter.**

For example, if the previous file had an `*.hme1` extension, and the new instance number is 2, you would type:

```
# mv /etc/hostname.hme1 /etc/hostname.hme2
```

9. **Halt and reboot your system.**

```
# init 6
```

Note – Refer to the *Sun FastEthernet PCI Adapter Installation and User's Guide* for more information about configuring the driver software.

▼ To Replace the Sun FastEthernet PCI Adapter With a SunSwift PCI Adapter in the Same PCI Slot

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Note – Refer to your system's installation or service manual for detailed instructions for the following three steps.

---

1. **Power off your system and open the system unit.**
2. **Replace the Sun FastEthernet PCI adapter with the SunSwift PCI adapter.**
3. **Close the system unit.**
4. **Power on the system, and when the OpenBoot PROM's banner is displayed, press the Stop-A keys to interrupt the boot process and to display the** `ok` **prompt.**
5. **At the** `ok` **prompt, use the** `show-nets` **command to list the system's network devices and to verify the SunSwift PCI adapter's installation.**

   You will see the system's network devices, which should be similar to the example below.

```
ok show-nets
a) /pci@1f,4000/pci@2/SUNW,hme@0,1
b) /pci@1f,4000/network@1,1
q) NO SELECTION
Enter Selection, q to quit: q
ok
```

   - `hme` identifies the SunSwift PCI adapter's Ethernet device
   - `network` identifies the on-board Ethernet Device

   Make a note of the SunSwift adapter's `hme` pathname for future reference.

Note – If these devices are not listed, check that the adapter is properly seated and reinstall the adapter, if necessary.

---

6. **Perform a reconfiguration boot on your system.**

```
ok boot -r
```

   After rebooting your system, login as super-user (root).

7. **At the command line, use the** `grep` **command to search the** `/etc/path_to_inst` **file for** `hme` **devices.**

```
# grep hme /etc/path_to_inst
"/pci@1f,4000/network@1,1" 0 "hme"          (On-board hme interface)
"/pci@1f,4000/SUNW,hme@2,1" 1 "hme"         (Sun FastEthernet PCI hme interface)
"/pci@1f,4000/pci@2/SUNW,hme@0,1" 2 "hme"   (SunSwift PCI hme interface)
```

In the example above, the `network@1,1` instance is the on-board FastEthernet device, the old `SUNW,hme@2,1` instance is for the previous Sun FastEthernet PCI adapter, and the new `SUNW,hme@0,1` instance is for the SunSwift PCI adapter.

You will need to know the instance number for the SunSwift PCI adapter. In the above example, the instance number for the SunSwift PCI adapter is 2, which is shown in bold.

8. **Using the instance number found in Step 7, rename the** `/etc/hostname.hme`<*num*> **file previously used by the Sun FastEthernet PCI adapter to reflect the new instance number.**

   For example, if the previous file had an `*.hme1` extension, and the new instance number is 2, you would type:

```
# mv /etc/hostname.hme1 /etc/hostname.hme2
```

9. **Halt and reboot your system.**

```
# init 6
```

Note – Refer to the *SunSwift PCI Adapter Installation and User's Guide* for more information about configuring the driver software.

Using the `test net` Command on an Adapter With an External Transceiver

If your adapter is connected to an external transceiver, you will see incorrect error messages when using the OpenBoot PROM (OBP) `test net` command. Although the `test net` command will pass the first time it is used, it will fail on subsequent tests, even though the Ethernet interface is functional and can be used.

You can avoid seeing these false test failures by using the OBP `reset-all` command between testing the adapter with `test net` command. Refer to bug id. 4062368 for more information.

Note – Refer to the *OpenBoot 3.x Command Reference Manual* (part number: 802-5837-xx) for more information about the `test net` and `reset-all` commands. This document can be found in the Solaris 2.6 Answerbook.

Known Problems

The following sections list the known problems and workarounds if they exist.

Fiber Optic Transceivers

The Sun FastEthernet PCI adapter's MII interface does not support external Fiber Optic (FX) transceivers. However, the adapter's MII interface does support TX, T4, and AUI external transceivers that comply with the IEEE 802.3u standard.

Refer to bug id. 4062714 for more information.

FastEthernet Switches (100BASET)

There are two FastEthernet (100BASET) switches which currently do not operate with the Sun FastEthernet PCI adapter:

- Bay Networks Model 28115
- Fore Systems (all models)

Autonegotiation

Autonegotiation is broken (10Mbps) in the `hme` driver.

Refer to bug id. 4064879 for more information.

Patch 104212-06 fixes bug 4064879.

Ultra 170E

In the Ultra 170E, an MII-AUI transceiver hangs the network in 10Base-T mode.

Refer to bug id. 1252776 for more information.

Patch 10412-04 fixes bug 1252776 and resolves the problems with MII-AUI transceivers in full-duplex mode on dumb 10Base-T hubs.